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ABSTRACT

This report explores the diverse ways that libraries are currently supporting distance learning, both in its traditional and newer Internet-based forms. Based on interviews with administrators and staff, the following "Reports from the Field" reflect developments in public institutions: "UNET (University of Maine System Network) Serves Maine's Distance Learners from a Central Agency"; "UMUC's (University of Maryland University College) Library Provides Comprehensive Support for Distance Learners"; "Western Governors University Breaks the Mold"; "University of Colorado, Colorado Springs Partners with Jones Intercable"; "University of South Florida-Tampa Serves Distance Learners Statewide"; "Central Connecticut State University Connects through Videotape"; "The University of Illinois Graduate Library School LEEPs into the Future"; "SUNY-Buffalo Addresses Distance Learning on Many Fronts"; "The University of Minnesota Library Prepares for Distance Learning"; and "The University of Iowa Plans To Serve the Underserved." The conclusion presents questions and suggestions for managers related to library policies, roles, and services for distance learning. Contact information for interviewees in provided, and a list of 26 selected resources for further study is included. (DLS)

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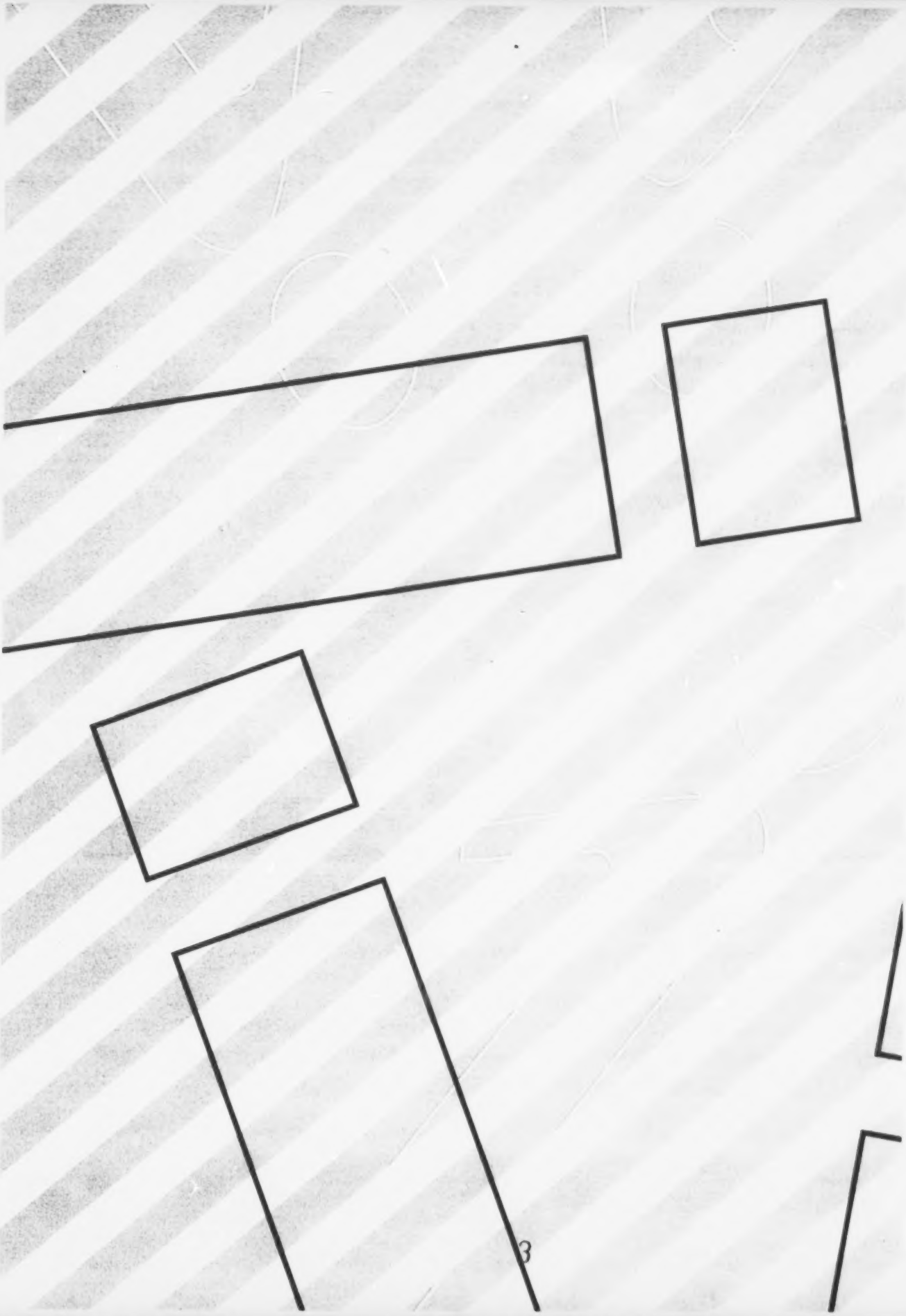

Distance Learning

Transforming Libraries

Issues and Innovations in

SPEC KIT 234

6

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Transforming Libraries *Issues and Innovations in* **Distance Learning**

6

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Introduction: Distance Learning

DISTANCE learning is an old concept given new meaning by the development of the Internet and the World Wide Web. This issue of *Transforming Libraries* explores the diverse ways that libraries are currently supporting distance learning, both in its traditional and newer Internet-based forms. As the **Reports from the Field** show, distance learning programs are more varied and complex than ever. In some cases, instruction is provided at remote sites by traveling faculty. It may be provided by television or videos, by satellite transmission to designated sites, or even by a variety of instructional materials mailed to the participants. In its most dispersed form, distance learning may involve faculty working from terminals in their own homes, creating virtual classrooms for students who are themselves working from their homes, their places of employment, or their motel rooms.

Library support for distance learners and for their instructors, like the distance learning programs themselves, is characterized by a multiplicity of forms. These may include maintenance of off-site collections at regional centers and campuses, interlibrary loan units using couriers, or other delivery services. Additionally, materials may be conveyed electronically, faxed directly to students or mounted as electronic reserves.

A wide range of problems and issues confront institutions that establish distance learning programs. In the past, successful programs required significant infrastructures and staffing levels (both teaching faculty and library staff) to deal with delivery of services to particular sites. To some extent, the older problems of physical delivery have given way to new problems created by web-based instruction. For example, it is necessary to ensure that the students using distance services are who they say they are, that they are currently enrolled as students, that they are eligible for any special services available to them, and that the computer systems that permit them access to course reserves and to licensed databases recognize them. In addition, faculty and students need to be technologically

proficient, at least minimally so, and must own or have access to equipment that is compatible with that of the institution offering instruction. Most schools have now created minimal hardware requirements for students participating in web-based instruction, but few schools have prescribed particular platforms.

The **Reports from the Field** in this issue of *Transforming Libraries* reflect developments in public institutions, the logical initiators of distance programs. Public institutions draw on the interest and support of legislatures for extending educational opportunities to the residents of the states. They have the infrastructure and the financial base for large-scale programs, and most have already established continuing education offices with an array of cooperative agreements and services.

The costs of creating and supporting distance learning programs are significant, and the institutions represented in this issue have developed various models for managing those costs and meeting their educational objectives. The University of Colorado at Colorado Springs has a self-contained program, although it has outsourced many of its offerings to a commercial provider. The University of Maine has created a program that extends throughout the state, utilizing centers and community college sites to make learning accessible to the state's residents. The University of Iowa, although still in the early stages of creating its web-based programs, is developing programs and services in cooperation with other Iowa state institutions and targeting students in the 18 to 22 age range as well as older adults who wish to improve their skills and marketability. The assumption is that this growing population of students will be making their educational decisions based on "price, convenience, and results."

However institutions make their choices, the technologies utilized in distance learning programs are changing so rapidly and in such a variety of applications that continued improvements are inevitable. The results of statewide and consortial initiatives such as those in Florida, Maine, the Committee on Institutional Learning (CIC) schools, and in the most extensive program of all, Western Governors University, will shape many of the programs that are still under development. There are certain to be increasing opportunities for connectivity, for communication among participants, and for simulating the classroom environment.

One economic question remains unresolved: Will distance learning reduce the costs of education? Might it even become a source of additional revenue for the institutions offering it? Those with distance learning experience contend that it will not soon turn a profit. The initial investment in equipment and staff and the ongoing investment of time, if it is done well, can be quite steep.

It is probably best to focus on the positive, long-term societal benefits of distance learning—bringing a previously disadvantaged population into the educational experience—than on immediate financial gain.

There are other major issues to be resolved. The importance of the legal environment and associated questions about accreditation were recently described in the *Chronicle of Higher Education* (6 Feb. 1998). Institutions need to ensure that they have the right to use the intellectual property contained in the courses they offer, and that they have obtained approval from boards of higher education and accrediting agencies. Whether states will attempt to limit competition from educational providers located in other states is an open question.

Acknowledgments

In addition to the interviewees who generously shared their time and knowledge for the **Reports from the Field**, the following people provided indispensable support: Isabel Danforth, Librarian's Online Support Team (L.O.S.T.). Prof. Donald Lanier, Library of the Health Sciences, Rockford, University of Illinois, alerted me to many discussions taking place on the Internet. Brian Nielsen, Northwestern University, informed me of many issues related to distance learning. George Soete, Editor of *Transforming Libraries*, provided counseling and editorial support.

Reports from the Field

THE **Reports from the Field** demonstrate the range of initiatives, planning, and implementation that promise to transform the delivery of higher education, particularly through web-based distance learning programs. Even institutions that have long histories of providing site-based distance learning are having to address issues raised by the incorporation of new information technologies into their instructional programs. The role of libraries as partners with the faculty and as independent providers of services continues to evolve. Some of these basic questions are outlined at the end of this publication; individual institutions will devise their own ways of resolving them.

UNET Serves Maine's Distance Learners from a Central Agency

In 1985, the University of Maine appointed a task force to look into developing programs to reach place-bound adults in Maine who wanted to pursue a post-secondary education. The result was an interactive television network that delivers courses statewide. A subsequent task force was charged to draft a plan for library support services for distance students. Librarians from the seven-campus University System, as well as the technical college system, participated in the project.

Susan Lowe, Assistant Dean for Off-Campus Library Services, was hired in 1989, the same year that the interactive television (ITV) network started. At that time, 36 courses were offered on a statewide basis with a total enrollment of 2,500 students in 47 locations. Today the University of Maine System Network (UNET) offers more than 96 courses per semester at over 100 locations. Instruction is provided via interactive television, compressed video, two-way web-based courses, and video-in-a-box, in which lectures are provided on tape and interaction is conducted via email and class listservs. Eleven of these off-campus locations are designated as Centers

where students can enroll in on-site as well as technology-based classes.

Courses are developed and taught by full- and part-time university faculty who have the assistance of UNET's instructional designers. The course content belongs to the faculty, and because of the additional hours that have to be invested in developing and teaching a distance course, they are paid a development stipend.

All off-campus library services are centralized for the University System and are provided through Lowe's office, Off-Campus Library Services (OCLS). Lowe developed and implemented the library services program with assistance from the university library directors and library staff, as well as an advisory board. In order to coordinate system-wide library services, she attends meetings with the university library directors, and she and her staff participate in system-wide library committees in areas such as reference and circulation.

Lowe participates in orientations for new faculty, and her staff speak in various settings to faculty about off-campus library services and copyright issues in distance learning. This provides faculty with the information they will need in order to devise online assignments for students.

Managing intellectual property matters is a big part of Lowe's job: she reviews all course proposals and provides guidance on questions such as whether copyright clearance is needed. In addition, she works with UNET's instructional designers and Web designers to incorporate information literacy components into both the general curriculum and specific courses. Lowe herself conducts about 20 bibliographic instruction sessions each year via interactive television as well as in person at the off-campus Centers.

OCLS organizes all course reserves for faculty engaged in distance teaching. Because of the number of off-campus locations needing reserves for a particular class—sometimes as many as 10 remote sites—Lowe manages the payment of copyright fees for their use. Reserves are primarily paper-based, but the University System libraries now offer faculty electronic reserves as an option.

The University of Maine System's digital library, Mariner, is available at all remote locations, with the students' library cards giving them access to the system. Students can initiate their own book requests electronically using the requestor function in the OPAC. Materials are sent to the student at the various centers and sites and in turn are picked up and returned to those locations for shipment back to the lending library. For journal articles, students submit requests via email, or from their desktop computers print articles that are available online in Mariner's full-text databases. Students can also submit requests for copies of articles using forms

provided at the sites. Copies of articles are made without charge and mailed to home addresses. Lowe is looking into third-party delivery systems. The library utilizes the OCLC interlibrary loan module, although at this time the University System library resources provide most of the materials requested.

A toll free number for either reference or technical assistance is available to distance learning students. Sometimes the questions focus on "housekeeping" issues such as why the students are not able to access the online public access catalog from their home or why their library card password doesn't work; but usually the requests are for what one might expect: assistance in the use of abstracts and indexes or guidance on the availability of an online dictionary in sociology, for example.

A distance learning program as complex as the one offered by the University of Maine requires an investment in staff training, and staff at remote locations are an integral part of the distance program. When Lowe was hired, she went to every site and met and trained all the site coordinators individually. By doing so, she got an idea of what it was like at the site end. Naturally, there are turnovers in staff, and she has therefore developed a series of local training programs to refresh skills. OCLS provides training at the Centers, and the Center directors invite staff from the affiliated sites to visit. What Lowe has come to think of as the "digital library" is changing every day, so training never stops. But the result of the training is that the Centers and the satellites effectively promote the OCLS office and its services.

OCLS tries to provide for the full range of customer needs, from contracting with local libraries throughout the state for supplemental local services for distance students to assisting faculty in obtaining temporary licenses for accessing databases.

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UMUC's Library Provides Comprehensive Support for Distance Learners

University of Maryland University College (UMUC) may be unique among universities offering distance learning because it is organized as a separate campus. It has been serving large numbers of undergraduate and graduate students for the past two years via the Internet through three primary areas of service: reference, document delivery, and instruction.

UMUC has an entirely web-based program, and services to students are offered in much the way that classroom instruction is available for each course. In some instances students are able to see the class and hear classroom presentations. Students have access to reference librarians through asynchronous computer conferencing, live chat sessions, and voice mail. Although the quickest response is through chat, librarians also respond quickly to email inquiries and voice mail. Librarians participate in classroom instruction and have learned how to make effective presentations in this medium.

Tycho, the software developed by UMUC, delivers the instructional programs and allows librarians to be guest lecturers, talk about projects assigned to the students, and provide short online text lectures. In appearance, Tycho resembles Lotus Notes, the graphical interface often used before the existence of the World Wide Web. UMUC's conferencing system operates like an electronic list, with topics and subtopics. The system also permits email and online chat.

Because the conferencing system is the primary vehicle through which distance learning is delivered, the library has developed its own virtual library classroom and delivers its own courses. An example of a recent course offered by the library, "Faculty Development Workshop: Searching the Web," is available online.

The goal in developing the Tycho software was to increase collaboration among faculty, students, and librarians in the learning experience. Students even have the opportunity to enter "student lounges," virtual sites accessible only to students.

The University advises distance students that they need to be comfortable with technology. However, it is not possible to ensure that everyone enrolled has the same software or can take advantage of the opportunities offered by the technology such as real-time audio and video. A major question in the future of distance education programs will be whether universities will establish certain minimums: for example, requiring students to have the capacity of integrating Java applets. The University doesn't want to deprive anyone of the opportunity to take advantage of its course offerings, but the quality of the program will be diminished by the limitations of the equipment.

According to Kimberly Kelley, Director of the Office of Library Services, it is especially important that the library provide as effective an instruction program as possible because most of the students will never been seen in person. The library has created a help desk to address any kind of problem—whether topical questions or problems related to the technology—that leads the student into a traditional reference interview.

In addition to instruction services, a major component of UMUC's library support is the delivery of resources. As finite, sometimes

irreplaceable resources, books have proven to be more of a problem than articles, and the library has had some rate of loss. Fortunately, many distance learning courses rely more heavily on the use of current materials—journal literature and newspapers—and the need for these can be met through photocopies, faxes, and online resources. Through licensing agreements, UMUC offers 56 databases on the Web, and as a result the library's page has become the most popular of the University's websites. UMUC has also set up a proxy server that permits distant students access to site-protected databases. The proxy server is an interim solution: UMUC is moving toward the kind of access provided by Project Galileo at the University of Georgia.

Twice each semester the University updates the library's student database, allowing students access to online databases without staff intervention. Some students have had difficulty making use of the library's services because many distance learning students attempt to gain access using their employer's equipment, which often has firewalls or other configurations that block access. The problems they encounter lead them to telephone for assistance, and this increases the workload of the library's staff.

The library's services are based on CARL (Colorado Association of Research Libraries) UnCover. SUMO, "student unmediated ordering," is an option that would permit students to order articles from CARL directly, but a barrier to UMUC's adopting it is that it doesn't allow the University to control how many articles or how much money one student can spend. A few heavy users could exhaust the University's deposit account. UMUC is working toward resolving the problem of providing direct access, but at the moment it is using alternative document delivery mechanisms. UMUC also uses OCLC's direct request through FirstSearch and plans on integrating both systems to increase the breadth its document delivery services.

The virtual library classroom includes online tutorials as well as a required class for all graduate students. In most cases, instruction is available only to those who have paid tuition, but the library is now moving beyond the tutorial to create a course that will be free to anyone on the Web. Once completed, tutorials can be used over and over, but the initial cost is significant. Grant support has been obtained to hire staff and to provide release time to existing staff to create the new services.

Funds have also had to be added for online reserves. Copyright clearance is expensive. UMUC follows guidelines for approval rigorously. UMUC has found that fees for copyright permission can range anywhere from $5 to $150 for each article each time. In fact, there is such a wide range of practice among vendors that it is very difficult to estimate costs for any given semester.

A major issue that will continue to require discussion is intellectual property. Vendors can be rigid about the fees that they

charge and what uses they are willing to permit. When the University began to coordinate purchasing efforts among its various campuses, its purchasing power and its ability to negotiate favorable terms increased dramatically. Kelley feels that collaboration and cooperation among libraries will be required as distance learning programs become more widely adopted.

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Tycho guest capability: http://tychousa.umuc.edu/webtycho/

Faculty Development Workshop: Searching the Web:
http://polaris.umuc.edu/library/faculty/toc.htm

Western Governors University Breaks the Mold

Much discussed in today's higher education community, Western Governors University (WGU) will concentrate on providing two types of distance learning, according to Terri Straut, Director of Customer and Provider Relations. First, it will provide a conduit for individual providers in education and business to list programs and certificates that are deliverable to distance learners through WGU's SmartCatalog. Second, WGU is seeking accreditation to offer its own competency-based degrees. WGU's first two planned degrees are an Associate of Applied Science in electronic manufacturing technology and an Associate of Arts, the first two years of a program leading to a Bachelor of Arts.

The General Library at the University of New Mexico (UNM) is moving toward a three-year contract to provide library services for WGU—an entity to be known as the WGU Central Library. The Central Library's role will be to provide library services at no additional charge to students that will complement services provided by the libraries affiliated with WGU's educational providers. Thus a student located in Alaska who is enrolled in a University of Oklahoma program will be able to choose library services at the University of Oklahoma or WGU's Central Library. One of WGU's goals, however, is to amass its own resources that will serve students at a distance and that will focus on efficient delivery of content.

The WGU Central Library web page is the focal point for resources from other information providers. These resources will include more than 60 databases from OCLC's FirstSearch and WorldCat, as well as other full-text electronic journals. When WGU offers its first course, there will be an impressively wide array of library resources from which students can choose.

Up-to-the-minute services are being organized. The UNM Library is hiring a librarian who will be responsible for the Central Library's reference services, monitoring email, voice mail, fax, and postal inquiries. UNM staff will also provide interlibrary loan back-up for the Central Library. Rush document delivery will be possible through the OCLC FirstSearch and CARL Uncover services: students will enter their credit card number and be directly charged for the services provided. A help desk will provide technical assistance for those who have problems connecting to the system or accessing databases through it. Another component of Central Library services will be a 1-800 Internet connection for a modest fee if students don't already have their own Internet service provider. UNM will eventually establish electronic reserves for the Central Library as well, and is considering linking online reserves to full-text journal articles.

The WGU Central Library will also accept requests for document delivery that are submitted by fax, online form, or mail. Central Library will respond by sending documents to students by mail at no additional charge, expecting a turnaround of two to three weeks. Interlibrary loan services will be provided, and items will probably be shipped via two-day air. UNM emphasizes that the WGU Central Library is the "fail safe" library: most requests for materials will be met by the institutions through which the courses are offered.

Intellectual property issues loom large in planning. The courses themselves will usually be owned by the institutions that offer them, but there will occasionally be other arrangements with the faculty who create and teach them. Site licenses for databases are clear about what services can be offered, but scanning an article and linking it to a cross-listed course is new territory. Reasonable and defensible policies must be developed for those instances.

Because WGU extends across state boundaries, laws within each state will have an impact. Initially there will be one educational provider site in each state. The pilot sites will be developing policies and exploring the legal implications of the project. These institutions will provide feedback on how the program is working within each state. As part of this evaluative process, there will be a library focus group and a discussion list to which students and librarians can contribute. By summer 1998, offers will be extended to other content providers. The program is complex, but it will result in the creation of an educational enterprise that hasn't been seen before.

In fact, everyone involved in this endeavor realizes how big and important it is—a scale much larger than the customary single institution and one campus. The assumption is that not everything will work perfectly and that students themselves will tell them how to improve.

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University of Colorado, Colorado Springs Partners with Jones Intercable

There are significant issues facing the development of distance learning programs on any campus. At the University of Colorado, Colorado Springs (UCCS), distance programs provide no direct revenue to campus infrastructure services such as the library. Therefore, although the campus offers a number of distance learning and continuing education courses, the library has not developed extensive services for the students. It has, however, created a fee-based service that is offered to businesses in the local community, and this service is also offered to distance learning students. The service includes a limited number of interlibrary loans and some document delivery.

The campus has also contracted out a number of its distance learning offerings. UCCS uses Jones Intercable and will use some of the Western Governors University (WGU) offerings. Both organizations offer library services. Jones Intercable uses CARL UnCover to provide access to the journal literature, charging students on a per-use basis. WGU has selected the University of New Mexico Library to provide library services.

Jones Intercable doesn't do any scanning of materials. Rather, it produces booklets (coursepacks) of readings, having found that it is cheaper to photocopy and distribute materials than to scan and mount them on a system. Moreover, obtaining copyright for photocopied materials is both easier and more straightforward.

The University of Colorado does 25-30% of its distance learning via television; the rest is Internet-based. Jones is moving toward more Internet-based instruction and less television, with

the expectation that enrollees will have the capability to use the Internet at home to receive their instruction. However, presently there are students who don't even have computers, and the growth of Internet instruction largely depends on the acquisition of computers by these potential students.

Administrators often see distance learning courses as potential "cash cows," something that can be offered at low cost and that can contribute to total revenue. But the facts suggest something different, according to Leslie Manning, Dean of the UCCS Library: distance learning can't be offered without a video network, and online courses can't be offered without a substantial telecommunication infrastructure. Courses offered on campus have an array of resources that are immediately at hand for students having problems: when students need help, staff and faculty are there to help them, face-to-face. In distance learning, the campus loses all control over connectivity, and trying to meet all the support needs can be nightmarish.

As the campus developed its distance learning courses, it began to utilize instructional designers to help the instructors organize the classes, beginning with simple things like goals and objectives and expanding into more advanced areas, such as the best formats to use for content delivery to accomplish those goals. Few faculty have extensive experience in designing curricula for distance courses, and the instructional designer helps analyze the outline and syllabus, breaking it down into modules. He or she also helps the instructor determine what works best in video or the Internet.

Although these courses also use instructional designers and faculty, the majority of costs are for software.

The partnership with Jones Intercable has been productive for UCCS. Jones has worked out many of the licensing problems and revenue sharing issues with publishers and software producers, but a gray area still remains: copyright agreements with faculty. In the University's view, the faculty in distance learning courses are not owners of content. The faculty argue that they should receive royalties on a per student basis. The current agreement is that when revenue exceeds costs of producing and offering the course, the faculty will receive a share.

A key problem persists: because there is not much revenue and the program is still in the experimental stages, it is difficult to find funds to support instructional services like the computer center and the library. And so UCCS debates whether to charge students for such services on the grounds that they are often getting a high level of personal service that is not available to on-campus students.

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University of South Florida-Tampa Serves Distance Learners Statewide

The Florida State University System's Distance Learning Library Initiative started with a modest effort to solicit funding for FirstSearch, the Encyclopedia Britannica, and bibliographic instruction. Eventually, the Initiative got a substantial grant to hire a person to prepare common-purpose instructional materials—user guides, tutorials, videos—for Florida's community college, university, and public libraries. This centralized approach for the instructional materials was chosen because of the difficulty of finding staff at participating sites who would have the time to undertake such a project.

A larger component of the distance learning effort in Florida was the establishment of the statewide Reference Referral Center (RRC). Located at the USF-Tampa campus, the RRC is funded by the State of Florida to serve all students enrolled in distance learning programs offered by Florida schools, wherever these students are located. The service was started by Ilene Frank, Reference Librarian, who has much experience in providing remote access to users. Frank, who teaches classes via the Internet, has also developed a website that includes resources available to distance students as well as information on the costs associated with distance learning.

RRC Manager Stephanie Race reports that inquiries come from all over, even as far away as Saipan. Race has found that distance learning students are interested in more than a factual answer. They often want to be walked through the process of finding the information, or to know how databases have been chosen. Some professors expect their students to use the Internet for all information-gathering, making it very important for these students to know how to evaluate web sources. In situations like these, the RRC assists the students in conducting searches that bring meaningful results. In some cases, however, given the abilities of the students and the nature of the problem, it makes more sense for the RRC to conduct the search.

Another feature of the state-level Florida Distance Learning Library Initiative is inter-institutional borrowing. This is a new area of service: most state university libraries have never loaned to community colleges before. One problem with a statewide approach is

that there is no master database of enrollees. Identification cards from the various schools don't all match and may not even carry the same information. When students present themselves at a desk with a book for loan, for example, the staff have no way at present to verify their standing at the originating schools. And, though a committee has been appointed to develop an ID that everyone can use, they don't have the authority to make everyone adopt the new ID. Some issues can fall between the cracks: Who is responsible for books that are lost by their borrowers? Who pays? How will money be collected?

Public libraries fall into another jurisdictional domain. Many are apprehensive that they won't have the resources to provide the services that may be requested of them. They may accept the desirability of the concept, but no one can mandate that they must participate.

A courier system is about to be put into place that will deliver books to distance learning students. The project funding provides two kinds of delivery: materials that are available from the UMI InfoStore will be obtained by the RRC and sent directly from UMI to the students, and a statewide courier service will also provide delivery with a 48-hour turnaround time.

Electronic reserves is a critical aspect of Florida's distance learning program. The Access Services unit under the leadership of Merilyn Burke provides full-text documents on electronic reserve to anyone who wants them, whether the requestor is on- or off-campus, at Miami-Dade or Tampa. Because some courses are offered entirely in electronic formats, such as the College of Nursing's distance learning through televised instruction, this service is critical.

Burke has been following Northwestern University's (NU) model for electronic reserves, which includes taking materials off reserve at the end of each semester and placing them on optical disks. The disks don't have to be kept in the library; they can go back to the professor if the she or he wants them. The material won't go back on reserve again unless there's a new request and copyright permission has been obtained. Librarians observe the CONTU guidelines and the principles underlying fair use, and the library will be collaborating with the bookstore to work out some of the permissions procedures. As a safeguard, there is a link to the Electronic Reserves page from the USF-Tampa home page, but access to it will be denied to visitors who are not part of the USF community.

A new web link was launched this spring, and it is already getting a lot of traffic. A monitoring system tracks how many hits an article receives and how often it's downloaded, but while it's

possible to print online reserves in the library, the volume of printing doesn't show up on the system. Burke uses both "TIF" and "PDF" formats: PDF gives better quality, but not everyone has the ability to read PDF files; the library would like to offer as many access points as possible.

Though most scanning is done at the main library, they are now able to ftp files from regional sites for installation on the USF-Tampa system. The reserves unit names the file, tags it, and puts it up in the right location, just as if they had scanned it themselves. Burke can also link faculty home pages to the online reserve materials. It's a very flexible system, and USF tries to make it as useful as possible.

Burke has to think a great deal about the problems of keeping up with technological change. The pace of change has been so fast recently, however, that she doesn't have time to think about keeping up: she simply does it. She believes that distance learners should have all the services that they could get if they were on campus.

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Central Connecticut State University Connects through Videotape

About a year ago, the librarians at Central Connecticut State University (CCSU) noticed that there was no connection between the university's distance learning programs and the library—that there were students the library was simply not reaching. Emily Chasse and other librarians moved into action. As part of a recent sabbatical, Chasse made two videotapes to help distance learning students discover library services available to them. Videotape

was chosen because instructors thought that their distance learning students would be more comfortable with videotapes than online tutorials. Currently, only about 50% of students have off-campus access to computers, and although sooner or later CCSU is sure to adopt web-based instruction, most CCSU distance learning is currently conducted with videotapes.

Chasse's project involved establishing policy, conducting research, reading articles, and creating the videos. Fortunately, she was able to obtain production assistance from one of the staff of Connecticut Public Television. She learned much in the process: what questions to ask and how to avoid basic mistakes. She visited and shot considerable footage on each of the CSU campuses and made one video that dealt with all library services. A second video focused on electronic resources.

Chasse knows that the technology can change at any time, so she tried to create videos that treated services generically, recognizing that they will eventually become dated. For example, she described the availability of CD/ROM services, but already the campus is moving away from reliance on CD/ROM technology.

The CCSU Library's home page lists a number of library services, and a new page for distance learning is about to be brought up. An "Ask a Librarian" page will provide an important link for distance learning students, and the library is going to make an effort to see that all those who teach distance learning courses are aware of the home page. The library offers some services to distance learning students that are not offered to students on campus. For example, books will be paged and sent to students at remote locations, while students on campus are expected to come to the library and retrieve their own books. One of the problems the library is working to resolve is a means of identifying the distance learning students. A student's status can change from semester to semester, but it would be useful for librarians to know whether students are on campus or off campus at any given time.

The project has revealed policy questions that need to be addressed. In some cases, materials can be sent to students by mail; in others, students have to come to the Library. It's important to be clear about the bases for decisions that result in policies that lead to different services for different populations.

Carefully planned networking also benefits distance learning students in Connecticut. Anyone can check a book out of any public library if a valid borrower's card is held. Students can also borrow from any library in the state, provided that they have a valid borrower's card showing where they are students.

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The University of Illinois Graduate Library School LEEPs into the Future

Professor Geoffrey Bowker's first experience with distance learning was teaching a course in systems analysis and design through LEEP3, the distance program of the University of Illinois' Graduate School of Library and Information Science. Building the course around a case study—Illinet's migration to the DRA System—Bowker sought to design a collaborative working environment for students using real library examples for projects that illustrate effectively the problems that occur in a working environment.

Bowker has learned much from his LEEP3 experiences. Teaching in an online environment takes much more time than traditional courses: interactions that take only a few moments in a classroom are replaced by often lengthy keyboard-based interactions, where the instructor spends much more time typing and working with students individually. While individual attention is good, distance learning, in reality, represents a significant increase in teaching time in an environment where other faculty responsibilities are also growing. Moreover, Bowker finds that the electronic environment can have distinct limitations; for example, access to a research library is indispensable for some courses, especially for a course like reference instruction. Bowker does not see complex intellectual content as a barrier to success in itself, however; the key is making the right materials available to students.

Online teaching environments offer many opportunities for interaction among participants. For example, LEEP3 uses webboards (newsgroup equivalents); whiteboarding, a technology that has been around for some time; and online chat sessions, virtual classrooms where students meet once a week. These are elegant solutions that have resulted in effective communication and collaboration, but there are occasional problems. For example, Bowker finds that students don't post to webboards unless required to. And, though at first the more technologically-oriented faculty thought that CU-SeeMe technology could be used, their first attempts were largely disastrous because of poor connections and slow modems. They concluded that, at least for the time being,

web-instruction had to be planned to accommodate the greatest equipment limitations.

Recently, streaming video and streaming audio have been linked to lectures and to PowerPoint presentations. But even though delivery mechanisms are now relatively efficient, interactive sessions still aren't being used. LEEP3 is organized to provide instruction "point to point," meaning that each student is at his or her own station—a design that complicates matters because it permits such a wide range of equipment to be used.

The question of varying levels of student technical competence has been resolved somewhat artificially. But the question remains: How generic should the program be? Should the school buy Lotus Notes and make it available under license, or should it use only freeware? Or should it architect its own solutions? Certainly, if the software were better integrated, the quality of instruction could be improved.

Another major question is how to provide library services that support online teaching. Putting material on the web isn't difficult, and copyright permission is easier to obtain if secure sites are provided. Bowker's own courses don't require heavy library access; course materials usually comprise about 20-30 articles and about 500 pages of text. Moreover, state resource sharing is well-organized, offering good support for students.

Intellectual property remains a key issue as distance learning programs become better established. Who owns a course, for example? Bowker, having served on a campus committee charged with developing a policy for intellectual property, reports that the issue is far from being fully resolved. Early on, for instance, a complication arose when a commercial publisher invited Bowker and his colleagues to produce a textbook and create a CD (they chose not to go ahead with the project); further complications exist, as well, such as when a course is taught by a faculty member at another institution.

Although the UIUC Graduate School of Library & Information Science (GSLIS) is on the cutting edge, offering a master's program via the web, the library has not yet provided much in the way of electronic services for distance learning students. Susan Searing, Acting Library & Information Science Librarian, wants to change that: she has proposed an electronic course reserve that would offer materials already owned by the library. This service would supplement and, to a large extent, replace mounting required readings on the GSLIS web server.

Though distance learning students are the primary audience for electronic course reserves, on-campus students would also benefit from after-hours access to reserve materials via the Internet.

Searing's cost estimates for the pilot are based on the assumption that when the system is up and running it will require about 80 hours per week of student assistance to do scanning, linking, and cleanup. Searing estimates scanning 1,000 pages each semester. There is already a server that can be used, so nothing needs to be bought during the pilot period.

Reference service for distance learning students is also a challenge. The Library & Information Science Library's main telephone was recently added as an extension to the extramural library service's 800 number, making it easier for students at a distance to obtain reference assistance. The central reference library also offers asynchronous reference service via email and its web page. Searing has taken advantage of the LEEP3 students' on-campus time each semester to get informal feedback on the library's reference services.

During the spring 1998 semester, the LEEP3 coordinators arranged an interactive discussion via the Internet in which students around the country informed Searing about their needs for access to materials and electronic resources. Students report that electronic access does not solve all their problems: it's important for them to have on-site access to library collections, as well. Because many are already employed in libraries, some of that need is met by resources available to them through their jobs. Obtaining professional library publications is one of their biggest needs, however, and for that they resort to interlibrary loan and UIUC's extramural library service.

As the person responsible for the technical side of the GSLIS program, Vince Patone has to keep not only the systems requirements in mind, but the legal aspects as well. Fortunately, the preservation of materials that are available to students online has not proven to be very difficult, and no information has been lost or destroyed. But there are many issues relating to online reserves such as copyright and the use of coursepacks. The School did experiment for a time with making particular (copyright-cleared) readings available on CD-ROM, but the material became quickly outdated, and putting together a package of materials in CD-ROM format was both costly and complex.

Some course materials are available online. Access to these readings is password-protected and kept up only for the semester during which the course is offered. All LEEP3 students have access to these articles, just as any LIS student would have access to them in the library. Use of coursepacks in LEEP3 is preferred at the moment, and students favor them, as well. Readings that are added after the beginning of the course can be mounted online. Anything that would ordinarily be a candidate for reserve readings in the LIS

library can also be a candidate for placing online. Patone stresses that whatever is done is done within the limitations of fair use.

The current approach to mounting online texts is to save the actual page in image (.gif) format. These formatted pages can later be incorporated as graphics into a PDF (portabie document format) file. For the most part, the image representation is displayed through a web page. Most of the reserve articles are in .gif format, displayed via a browser, but a few have been put up in PDF format as well. The pages can also be scanned using any number of OCR products that recognize text, and these can be saved in any popular word processing format, retaining the page layout.

For images, LEEP3 has favored scanning. Because some students report having trouble accessing large images, the school is rethinking this position and may move towards an OCR package. Image scanning is faster, and it creates a replica of the original. However, file sizes are larger, and it takes longer to download. Decisions have to be made about the quality of the image; the better the quality, the larger the file. If OCR equipment is used, however, the files will not only be smaller, but the image quality better. In addition, it's easier for students to print out copies, provided copyright permits printing. But in library science schools, the issue of copy quality may not be very great.

GSLIS has worked hard to create clear documents. The quality of reproduction is important, whether students are viewing pictures or reading formulas. One other alternative in this pursuit that GSLIS is looking into but has not implemented is to link the online document with a fax server. The document image can be put in whatever format the fax uses. Students can receive a fax at their PC via modem or they can use a "regular" standalone fax machine. If they use their computer fax software, students can then save the fax transmissions locally on their computer; otherwise, they will only have the paper copy that a regular fax machine produces. However, the ability to deliver documents by fax may be impacted by interpretation of copyright laws, and will be successful only if this issue clears.

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SUNY-Buffalo Addresses Distance Learning on Many Fronts

Through his extensive experience with designing and delivering distance learning courses ranging from marketing to intellectual freedom, John Ellison, a professor in the library school at the State University of New York, Buffalo, has learned two important lessons: 1) teaching on the web does not automatically translate from the classroom, and 2) communicating with students requires a large investment in time.

In fact, Ellison reports that almost everything related to teaching via the web takes more time; distance learning requires as many eyes and arms as you can find. When lecturing in a classroom, Ellison can use a small number of notes for an entire session. But on the web, everything must be carefully organized and clearly presented: mounting a web-based course involves much more than putting up a syllabus, lecturing, and assigning a group of readings. Recently, Ellison estimated that he might invest 14-16 hours per week on his computer courses. Moreover, the volume of correspondence between students on their classroom bulletin boards is so great that Ellison is unable to read every posted message. He has learned to have his students tag the postings that they feel are important and that they particularly want him to read.

With experience has come technical proficiency: Ellison uses audio now to supplement notes, and he wants to begin using video clips. Though instructional design takes time, the technology is fairly easy. What often takes time is finding and evaluating sources on the web before building them into assignments.

Self-taught in web management, Ellison began developing distance learning courses after a long career in conventional classroom teaching. Honoring a tradition of classroom instruction, Ellison often asks guest librarians to contribute to the online classes. These librarians may communicate important messages about why librarians are needed in areas like technical services or the kinds of contributions they make to their parent institutions and professional organizations.

The library at SUNY-Buffalo has been very supportive, especially the Science Library, and has put up a web page for distance learning, as well as materials for online reserve. Ellison has also created his own web page and does most of the work for it himself. He has had good luck obtaining copyright clearance, but he also relies on existing sites for some of his course materials, linking to sites that he wants his students to see.

Next year there will be six or seven web-based courses offered by SUNY-Buffalo's School of Library and Information Science. The School requires students to be on the campus part of the time; it doesn't want to award degrees to people it doesn't know.

In planning its distance learning services, the SUNY-Buffalo Library conducted the Educational Technology Initiative (ETI), a grant-funded pilot project focused on the feasibility of delivering course materials over the Internet to students enrolled in distance programs. These materials included course syllabi, schedules, lecture notes, handouts, and homework assignments, as well as course reserve readings. Access to these materials was integrated with access to a variety of electronic library resources and services, including online catalogs and bibliographic and full-text databases. The project explored copyright and intellectual property management, as well as technical and access issues. One challenge in designing and operating services of this kind is knowing who the users are, the equipment available to them, and their skill in using information technology.

In order to evaluate the project, the library conducted surveys of both the distance learning students and of the faculty who taught the courses. Were they aware of the library support services available? What was most useful? If they didn't use the web service, why not? What were the barriers to use? Some of the data, to be reported in future articles, are anecdotal; for instance, some students found access difficult because they hadn't received any instruction. Precise data has been gathered, however, on a number of behind-the-scenes technical aspects of project operation, such as how long it took to process a PDF file or to link a file.

Engineering Librarian Nancy Schiller believes that equipment is a crucial part of this kind of service, particularly the type of scanner used. The library has upgraded to a Fujitsu M3097G High Performance Scanner for scanning directly into the Acrobat PDF format. Before upgrading to the Fujitsu, a great deal of time on the project was spent proofreading for and correcting scanning errors.

Schiller characterizes materials placed on the library's distance learning website as either dynamic (for example, homework assignments) or static (for example, syllabi and course reserve readings). Dynamic materials, received throughout the semester,

are usually time-sensitive and place the greatest demands on the service. Faculty used the service in highly variable ways. The engineering faculty, in particular, tended to generate more dynamic materials. Other faculty had more static material up front, syllabi and readings. A few faculty presented everything that the student would need for their courses through the course web page. Schiller notes the possibility that some faculty are putting everything up on their own web pages without working with the library, a trend that the library could support by taking responsibility for handling the online course reserve readings for them.

The key questions about the library's involvement in the distance learning program focus on faculty: how to work with them, how to establish lines of communication, how to make faculty a participant with the library in the endeavor. The ETI grant has given the library the opportunity to test these and many other questions related to the provision of library support for distance learning using the web to deliver online course materials.

Overall, Schiller believes the library should have responsibility for online course reserves due to its greater experience and knowledge of copyright issues. The library also tries to be format-blind in making course materials available to students online, at the same time observing principles of fair use by passwording these files and making them accessible only to the students enrolled in the course and only for the one semester.

The SUNY-Buffalo Libraries have also collaborated extensively with the School of Engineering and Applied Sciences (SEAS) on development of a distance learning program called EngiNet. This program delivers engineering courses through the use of videotaped lectures. The Science and Engineering Library (SEL) makes library services and web-based course materials available to students enrolled in EngiNet courses. The Libraries have also provided web-based course material support for a broad range of other disciplines, including education, geology, library and information science, nursing, and social work. Off-site distance learning programs in nursing and social work have taken extensive advantage of ILL and document delivery services. Distance learning students also use the electronic databases and resources available from the Libraries' web pages.

The Libraries have also tried to provide training and instruction to faculty and students using electronic resources remotely. For example, librarians schedule appointments with faculty to make sure their workstations are adequately configured to use library resources from their offices. While there are no formal programs for training distance learning students to use library resources, help is available. Paper handouts, electronic

reference services, the libraries' online Help Center, and online guides are available for use by distance learners. On occasion, librarians have also delivered library instruction classes remotely.

At the statewide level, the SUNY system is also involved in developing distance learning programs. The SUNY Learning Network, a SUNY-wide program to offer asynchronous web-based courses, is being developed centrally, although courses are offered by campuses throughout SUNY. SUNY sponsors a conference every year devoted to faculty use of technology in teaching, and some electronic databases that provide support for distance learners are purchased centrally.

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The University of Minnesota Library Prepares for Distance Learning

The University of Minnesota Library is in the beginning stages of extending services to distance learning students, trying to catch up with what has been happening elsewhere. To meet the growing challenges of distance learning, the library has been awarded a three-year grant to implement a comprehensive array of services to distance learners. Project coordinator John Butler, a University of Minnesota Library staff member, wrote the grant proposal and has recruited a Coordinator of Reference Services to Remote Users and a Distance Learning Information Literacy Librarian.

The library is building on a long history of on-campus document delivery services that have been in place for almost 20 years, including delivery of journal articles and books to faculty and staff at any location on campus. The service in its present form has been stable for the past ten years, but soon distant learners will also be able to use it. The book delivery component carries no charges; to

offset copying expenses, the library charges for photocopies. The service receives between 12,000 and 14,000 requests each year and expects this number to increase as distance learners become more aware of it.

As the University of Minnesota Library plans for services to its distance learning students, the goal is to provide the same access that on-campus students have. However, they want to phase in these services so that they do not find themselves in financial difficulty three years down the road. In pricing services, the goal is for the individual units to recover their direct costs for supplies and staff; they are not, however, tackling the daunting task of trying to calculate indirect costs of operating the services. Other questions await: What will people pay for services—$3, $4, $5 per item? How will the library collect those fees? The library aims to find answers to these questions and to provide solutions to distance learners' needs over the course of the grant project.

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The University of Iowa Plans to Serve the Underserved

In many ways, the University of Iowa's library has supported distance learning for a long time. In other ways, it is just at the beginning of its efforts. The library is running a pilot program to provide service to the master's degree program in the School of Social Work. Under the new program, the library is making copies of articles, sending faxes, and delivering books to students in Des Moines. There is no charge for these services. Library staff are now investigating how the program might be expanded.

The University of Iowa's sole campus is located in Iowa City. The Iowa Board of Regents, however, has begun to emphasize the need to offer distance learning to underserved portions of the state, particularly in the western regions (all three of the state's public institutions are in the eastern part of the state). As the library began to consider the needs for services to other areas, staff discovered that the university's continuing education division was contracting with a private university in Des Moines to provide materials for University of Iowa students.

The library is recruiting a new staff person to coordinate distance learning services, and the university plans to establish four new teaching sites around the state. The division of continuing education will also support some of the library's

services. The community colleges will be feeders to these programs, allowing community college students to then finish their degrees at the regional sites. Yet, though the continuing education division is an income-producing arm of the university, other forms of funding may be necessary once the program is established.

The university has begun to train faculty in the use of new technologies—for example, how to use WebCT, a software system that can be used to create courses for the World Wide Web. The computing facilities say they cannot support growth indefinitely with the staff currently on hand, but some grant funds are available, and the library has obtained support for developing web-based courses.

The library has sought to coordinate its services with the teaching units offering distance learning courses. A coordinator from the College of Business has worked with the library, and the School of Social Work has created a brochure that describes library services and basic information for students and faculty, such as making students at the regional sites aware of the online public access catalog, the capability to send email requests to the reference department for assistance, or document delivery services. The challenge is to inform the faculty and students of the library's services.

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Conclusion

Questions for Managers: Policies, Roles, Services

WHEN DISTANCE learning programs move from the periphery to become an integral part of the campus's educational mission, it is particularly important that the library be included in the planning process in order that problems of access are resolved before the programs are implemented. In particular, the library needs to be involved in establishing how distance learning students will be authenticated in order to have access to licensed databases as well as to take advantage of other library services.

As a related issue, will the library participate in decisions on whether distance learners will be charged differently than on-campus students for services, or be eligible for different services than on-campus students?

More significantly, will the library assume responsibility for developing and implementing policies relating to intellectual property, for instructing faculty as to what is permissible, and for obtaining permission for course materials and electronic reserves? And will the library have some influence in setting requirements for hardware, software, and network connections that students must have to participate in network-based distance learning?

What functions and roles will the library fill? Will the library provide access (and by what means?) to course reserve materials, library or consortial catalogs, licensed databases, or guides to web resources for course or subject disciplines developed by the institution's libraries and/or faculty?

How will the library provide such basic services to distance learners such as interlibrary loan, reference assistance, and document delivery? Will it provide support for the creation of web pages for specific courses on behalf of faculty? Will it provide instruction in IP policy and web page development for faculty, as well as in web-based information sources for students? Will it provide technical support for distance learners, a challenging undertaking especially in systems for which there are few or no standards or restrictions for the kinds of hardware, software, and

connections that distance learners can use to access services?

Answers to some of these questions may be found in the Reports contained in this issue. The landscape of distance learning changes daily, but enough of the principles have been presented here for libraries to begin planning.

Getting Started

For many libraries, getting involved in distance learning is a new adventure. Here are a few ideas for getting started on the process of supporting distance learning.

- Conduct a quick survey of the distance learning activities and programs on your campus, both those currently in place and those in the planning stage. How many courses are currently offered in a distance learning mode? How many distance learners are involved? What disciplines are represented? Are they library-intensive disciplines or ones in which there are few library needs? How do current programs handle policy issues such as authentication?
- Get to know the primary players in distance learning within your institution. How is distance learning organized? Is there a separate department or school?
- Go further: begin to explore assumptions about library support for distance learners. What are campus leaders and program developers expecting from the library? From Information Technology?
- Prepare a quick analysis of current library capabilities. Can the library's technical infrastructure support distance learning activities? Include an analysis of policy issues. What are the library's current policies and practices in the area of intellectual property? How might these impact services to distance learners?

Selected Resources for Further Study

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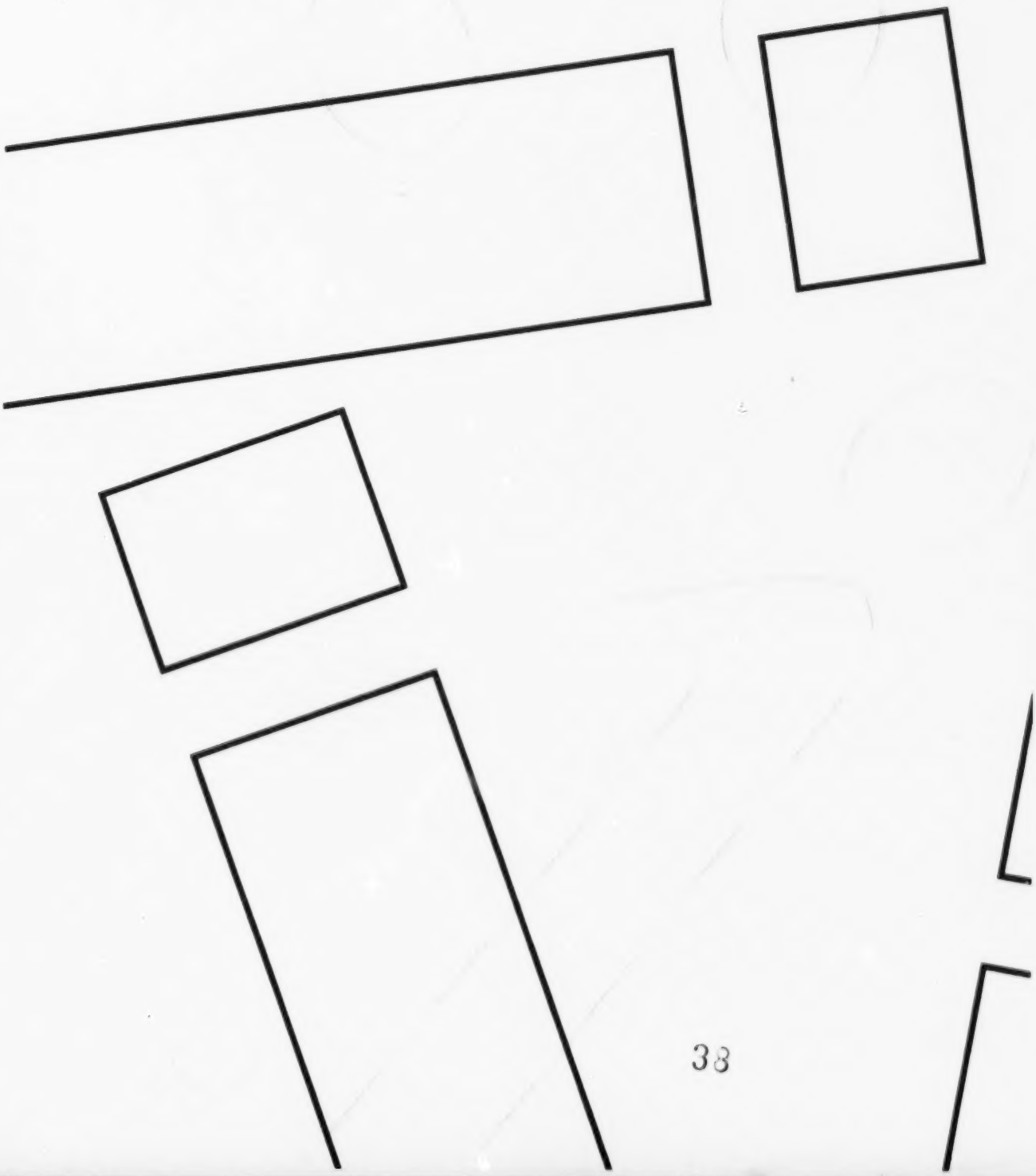

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